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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,477	04/15/2004	Jee-Hong Min	Q80528	6496

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EXAMINER

SHALLENBERGER, JULIE A

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,477

Applicant(s)

MIN ET AL.

Examiner

Julie A. Shallenberger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2006 and 24 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-11 and 13-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-11 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 5 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/24/06.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

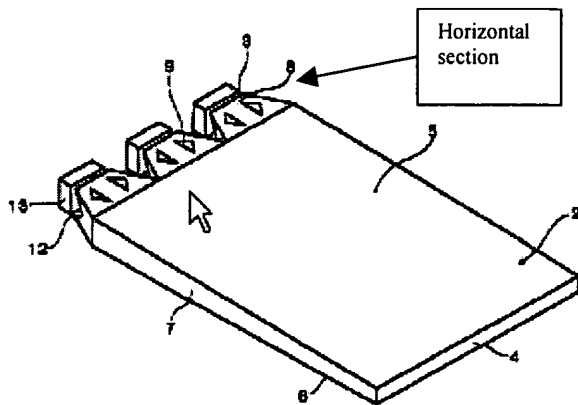
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Shono (JP 2002-169034A).

In regard to claim 1, Shono discloses a light guide panel 2 of an edge light type backlight system with a point light source 13, an emitting surface 5 and a light incident part 3 with a prism pattern 12 facing the point light source (shown in figure 1), and two surfaces that are opposite each other from the optical axis and the surfaces extend from the incident surface to obtain total reflection. Shono also discloses a prism pattern with a horizontal section in the shape of triangles (as shown in the figure below). Although this structure of Shono appears different than that of the claimed invention, a horizontal cross section yields the shape of triangles as claimed in the application. The examiner further explains why this is not a patentable feature in the section titled "Response to Arguments" below.

In regard to claims 2-3 and 7, Shono discloses symmetrical first and second surfaces that are opposite each other and at the same angle from the optical axis.



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6, 8-11, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shono in view of Noh (KR 2001-0039013).

Shono teaches the elements of claim 1, but lacks the teaching of an apex angle greater than 90 degrees on the prism sheet. Noh teaches an apex angle B of 90 degrees or 100 degrees shown in figure 4.

Although Shono's point light source is not specifically taught as being a light emitting diode, it is well known in the art to use a light emitting diode as a point light source.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light guide panel of Shono with Noh's prism sheet having an apex angle greater than 90 degrees in order to direct the light as desired by the user.

In regard to claim 9, Shono discloses a light guide panel 2 of an edge light type backlight system with a point light source 13, an emitting surface 5 and a light incident part 3 with a prism pattern 12 facing the point light source (shown in figure 1), and two surfaces that are opposite each other from the optical axis and the surfaces extend from the incident surface to obtain total reflection, but lacks the teaching of an optical path-changing unit. Noh teaches optical path-changing unit 30, shown in figure 1.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light guide panel of Shono with Noh's optical path-changing unit in order to modify to light being guided from within the panel.

In regard to claims 10, 11, and 15, Shono discloses symmetrical first and second surfaces that are opposite each other and at the same angle from the optical axis. Shono also discloses a prism pattern with a horizontal section in the shape of isosceles triangles.

In regard to claim 14, Noh teaches an apex angle B of 90 degrees or 100 degrees shown in figure 4.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light guide panel of Shono with Noh's prism sheet having an apex angle greater than 90 degrees in order to direct the light as desired by the user.

In regard to claims 8 and 16, Noh discloses a prism pattern within a range of 20-50 μm and although the range claimed in 16 is wider, there is an overlap in the ranges and it would therefore be obvious to one of ordinary skill in the art at the time the invention was made to use a pitch that is near the range taught by Noh.

Claim 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shono in view of Noh and further in view of Yang (6,480,307).

Shono and Noh teach the elements claimed in 9, but lack the teaching of an optical path-changing unit including a holographic scattering pattern formed on the light emitting surface and the surface opposite the light emitting surface. Yang teaches holographic scattering patterns 108, and 111 formed on the light emitting surface and a surface opposite the light emitting surface (see column 6-8 and figures 10-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the light guide panel of Shono with Noh's optical path-changing unit and Yang's holographic light guide, in order to distribute brighter and more uniformly illuminated light on an LCD panel.

RESPONSE TO ARGUEMENTS

In regard to claim 1, the examiner would like to note that in addition to the teachings of Shaw having a prism pattern with a horizontal section in the shape of triangles, Noh teaches a prism sheet with a vertical section in the shape of isosceles triangles and if this prism sheet were rotated the prism pattern would have a horizontal section in the shape of isosceles triangles. This is an obvious alternative in order to direct the light as desired by the user for various applications of the light system. Also,

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as disclosed by the applicant, Toyoda teaches a prism sheet with horizontal isosceles triangles. Using this reference as a teaching would yield another obvious alternative in order to direct light as desired by the user for various applications of the light system.

Allowable Subject Matter

Claims 5 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art fails to show or teach the relationship between an apex angle of a prism sheet and the half-maximum angle satisfying the equation $C_3 \geq (90 - \alpha) \times 2$.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie A. Shallenberger whose telephone number is (571)272-7131. The examiner can normally be reached on Monday - Friday 830-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee Luebke can be reached on 571-272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Julie Shallenberger
Examiner AU 2875



RENEE LUEBKE
PRIMARY EXAMINER